

REMARKS

The Office Action of October 6, 2009 has been fully reviewed, and in view of the above amendments and the following remarks, reconsideration and allowance of the pending claims are respectfully requested.

In the above Office Action, claims 1-54, 61-82, 89-104 and 139-151 were rejected under 35 U.S.C. § 112, second paragraph; claims 1 and 4 were rejected under 35 U.S.C. § 102(b) as being anticipated by Damadian et al. (U.S. Patent No. 6,414,490); claims 1-14, 17-19, 21, 33-37, 41-43, 61-66, 75-76 and 78 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Damadian et al. (U.S. Patent No. 6,414,490) in view of Eckels et al. (US 6,011,396); and claims 15-16, 38-40, 67-72 and 77 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Damadian '490 in view of Eckels et al., and further in view of Damadian et al. (U.S. Patent No. 6,023,165). Still further, claims 15-16 and 38-40 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Damadian '490 in view of Eckels et al., and further in view of Damadian et al. (U.S. Patent No. 6,934,574) and claims 20, 22-32, 44-54, 73-76, and 78-82 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Damadian '490 in view of Eckels et al., and further in view of Carter et al. (U.S. Patent No. 6,860,272).

Applicants appreciate the Examiner's attention and detailed comments regarding the rejections under Section 112, second paragraph. In response thereto, the claims have been carefully reviewed and amended to address each of the Examiner's concerns.

As generally summarized by the Examiner, claims 1-54, 61-82, 89-118 and 139-151 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over

Damadian et al. (U.S. Patent Nos. 6,023,165, 6,414,490 and 6,934,574) in view of Eckels et al. and Carter et al. For at least the following reasons, Applicants respectfully traverse these rejections.

At the outset, Applicants note that in the primary reference upon which the Examiner relies, Damadian et al. '490, the patient positioning table is not slidably connected to a supporting frame between the two poles, but rather, it is slidably connected to a supporting frame which is insertable between the two poles. This is completely different, not only because the configurations are structurally very different, but mainly because the goals to be achieved are opposite.

Damadian et al. '490 discloses an apparatus where a patient can be oriented on the mobile patient-positioning device, even outside the patient receiving space before inserting him/her into the patient space, and this movement can be carried out independently from the magnet structure so that "the MRI magnet does not necessarily have to change its orientation" (column 1, 58-59), in order to save time for example in multiple patient scanning. On the other hand in instant application the main objective is to reduce dimensions and costs with a small compact machine which can nevertheless be configured in several different orientations of the patient table for the imaging of the patient, in particular of the vertebral column.

Based upon the disclosure of Damadian et al. '490, Applicants contend the claimed invention would not be obvious to one skilled in the art, if the aim is to reduce the dimensions of the whole MRI apparatus.

Furthermore Damadian et al. '490 combined with Eckels et al. '396 would not achieve the same results as the present invention. Eckels et al. '396 in Fig. 4 (and other figures) shows a magnet structure which is rotatable about an axis which is

external to the magnets. The magnets are supported by arms which are mounted pivotably to the base (2), which base constitutes also the flux return path or yoke. Thus, two movements are contemplated: the first is a rotation of the arms about an axis passing through the base leading to different positions (Fig. 5 and 6), and the second is a rotation of the magnets about their central axis, as shown by arrow (68) for the adjustment of the magnet field orientation. Even applying these movements to the Damadian et al. '490 assembly would not lead to the instant invention, where the magnetic structure and the yoke are rotatable about an axis passing through the center of the magnets, together with the frame and thus, a plurality of positions with a saving in space is realized.

With respect to claims 10 and 11, the Examiner contends that Damadian et al. '490 can be combined with Damadian et al. '165, where a patient table rotatable about its longitudinal axis can be seen in Fig. 16, so that the subject matter disclosed is substantially as claimed except for a simple design choice of the shape of the elements. Regarding claim 10, Applicants submit that a table supporting frame formed by an elongated element slidably engaged with the central branch of the U-shaped magnetic yoke cannot be recognized in any part of the Damadian et al. '490 reference. With respect to claim 11, and referring to Fig. 3 of the present application, Applicants contend that the U-shape of the table supporting frame is definitely not just a design choice but has an important functional role: In fact if the patient table was simply rotatable about its longitudinal axis, a position like that illustrated in Fig. 10 would be possible only in a larger assembly, since the patient table would be substantially in the center of the patient receiving space, and a major distance between the magnets would need to be provided in order to have enough space for

the body. Furthermore the U-shape guarantees that the longitudinal central axis of a body remains substantially coincident with the rotational axis, so that the imaging volume remains substantially the same. This aspect avoids the need to create the wanted homogeneity conditions in different regions of the patient space from time to time for different scanning positions.

With respect to Claims 15 and 16, even if Damadian et al. '574 discloses a patient support with two parts hinged together and capable of being adjusted to a number of angles and positions, as the Examiner contends, they appear to be limited to a "variety of angles such that a patient may be positioned in a stand-up or a lie-down (recumbent) position, or any angle in between" (column 5, rows 25-27), and not to the entire angle range recited in the claimed invention. In fact, a combination of Damadian et al. '490 and Damadian et al. '574 cannot lead to that plurality of positions disclosed, for example, in Figs. 25 to 34 of the present application.

With respect to claims 20 and 22 to 32, Applicants respectfully contend that Carter et al. is not relevant for at least the following reasons. The foot plate in Carter et al. is not a longitudinally slidable support base, as in the present application, but rather a complex pressure generator to compress a patient's skeleton, the body of the patient being immobilized by retaining means. The body immobilizers are fabric straps, or fastening belts, which are not explicitly adjustable relating to their length. Carter does not disclose or suggest any knee retaining means, as recited in the claims. The patient retaining means in Carter et al. are not secured, slidable along the table nor in an angularly displaceable way nor adjustable relating to their

distance to the table, nor provided with releasable locking means, and no fastening points are distributed over a predetermined range of different positions.

Furthermore, in Damadian et al. '490, the handles or hand grasps or arm rests 48 are intended just to increase the comfort and the equilibrium of the patient, who is standing without any retaining means, and are not support means or means against which the patient can exercise a force to help maintain a position adherent to the table.

One advantageous aspect of the claimed invention is that the rotational movements of the patient table and of the magnet, such as the shifting movement of the patient table with respect to the yoke, are strictly bound together. This solution provides a compact apparatus which allows a plurality of orientations, and at the same time, permits the region of interest to easily be put in the volume of imaging in the center of the patient receiving space, whereas the longitudinal axis of the patient body remains in the same position with respect to the magnets during these movements. Applicants respectfully submit that even combining the teachings of Damadian et al. (U.S. Patent Nos. 6,023,165, 6,414,490 and 6,934,574) in view of Eckels et al. and Carter et al., one skilled in the art would not arrive at the claimed invention or achieve these advantages.

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully submit that the claims of the present application are now in condition for allowance, and an early indication of the same is earnestly solicited.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference would be helpful in resolving any remaining issues pertaining to this application; the Examiner is kindly invited to call the undersigned counsel for Applicant regarding the same.

Respectfully submitted,

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